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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,382	06/24/2003	Massimo Civilini	2705-728	2846

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EXAMINER
SUGLO, JANET L

ART UNIT	PAPER NUMBER
2857	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/603,382	CIVILINI, MASSIMO
	Examiner	Art Unit	
	Janet Suglo	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *23 February 2007*.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-25 and 27-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-25 and 27-36* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *24 June 2003* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The action is responsive to the Amendment filed on March 7, 2007. Claims 1-25

and 27-36 are pending. Claims 1-25 and 27-36 have been amended. Claim 26 has

been cancelled. Claims 31-36 are new.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3.   **Claims 1-13, 29, 31, and 34-36** are rejected under 35 U.S.C. 112, first

paragraph, as failing to comply with the written description requirement.

4.   **Claims 1, 4 and 12** are rejected under 35 U.S.C. 112, first paragraph, as failing

to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. Claim 1 includes "the reference failure rate

being a *first quotient* of an amount of failures associated with a population of the

monitored device and an amount of time, the reference failure rate associated with an

expected operating temperature for the monitored device and an expected traffic based stress ratio for the device," "an expected traffic-based stress ratio," and "actual traffic based ratio" which have not been disclosed in the specification.

5.   **Claims 6, 8, 9 and 29** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 29 includes "a line card located in a network processing element" which has not been disclosed in the specification.

6.   **Claim 34** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 34 includes "monitoring a transistor utilization percentage" which has not been disclosed in the specification.

7.   **Claim 35** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 35 includes "monitoring a bandwidth usage percentage" which has not been disclosed in the specification.

8.　　**Claim 36** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention. Claim 36 includes "the reference failure rate for

the device is a reciprocal of a reference MTBF" which has not been disclosed in the

specification.

9.　　The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

10.　　**Claim 17** recites the limitation "the identifying a cumulative reliability indication

value" in line 5 of claim 17. There is insufficient antecedent basis for this limitation in

the claim.

Claim Rejections - 35 USC § 102

11.　　The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

12.   **Claims 1, 4, 5, 7, 11, 13-17, 19-22, 24, 25, 27, 28 and 30-34** are rejected under

35 U.S.C. 102(b) as being anticipated by Quist et al. (US Patent 6,199,018) (hereinafter

"Quist").

With respect to **claims 1, 4, 5 and 7**, Quist teaches an apparatus comprising:

one or more processors; and

a memory coupled to the processors comprising instructions executable by the

processors (e.g., col 2, ln 12-30), the processors operable when executing the

instructions to:

identify a reference failure rate for a monitored device, the reference failure rate

being a first quotient of an amount of failures associated with a population of the

monitored device and an amount of time, the reference failure rate associated with an

expected operating temperature for the monitored device and an expected traffic-based

stress ratio for the device (i.e., Weibull Law) (e.g., col 19, ln 46 – col 20, ln 11);

communicate with the monitored device while the monitored device is in field

operation for determining an actual operating temperature for the monitored device and

an actual traffic-based stress ratio (e.g., col 19, ln 46 – col 20, ln 11);

determine a temperature stress adjustment factor using the expected operating

temperature and the actual operating temperature (e.g., col 13, ln 10-45; col 27, ln 43-

45);

determine an electrical stress adjustment factor using the expected traffic-based

stress ratio and the actual traffic-based stress ratio (e.g., col 13, ln 10-45; col 19, ln 46 –

col 20, ln 11); and

output an instantaneous failure rate that is a first mathematical product of the reference failure rate, the temperature stress adjustment factor and the electrical stress adjustment factor to a display device (e.g., Figure 1: 14, 15; col 3, ln 36-47; col 5, ln 3-18; col 19, ln 46 – col 20, ln 11).

With respect to **claims 14 and 27**, Quist teaches a system comprising:

means for identifying a reference failure rate for a monitored device, the reference failure rate based on expected environmental conditions and expected usage parameters for the device (e.g., col 5, ln 9-10; col 14, ln 41-54; col 15, ln 44-52; col 20; ln 1-11):

means for measuring actual temperature while the device is being operated by a purchaser of the monitored device and actual electrical stress on the monitored device while the device is being operated by a purchaser of the device (e.g., col 8, ln 20-36; col 11, ln 31-48);

means for comparing the expected environmental conditions and the expected usage parameters to the measured actual temperature and the measured actual electrical stress (e.g., col 6, ln 7-20);

means for determining an instantaneous failure rate by adjusting the reference failure rate according to the comparison (e.g., col 4, ln 56 – col 5, ln 3); and

means for outputting the determined instantaneous failure rate (e.g., col 17, ln 36-47).

With respect to **claims 15 and 16**, Quist teaches the actual temperature and the actual electrical stress are measured automatically after passage of a predefined time

interval and over a predefined duration (e.g., col 17, ln 23-35; col 20, ln 35-45; col 28, ln 55-62).

With respect to **claims 13, 17 and 30**, Quist teaches means for automatically re-determining the instantaneous failure rate after passage of a predefined time interval (e.g., col 4, ln 56 – col 5, ln 35); and

means for identifying a cumulative reliability indication value for the monitored device by summing the initial instantaneous failure rate and the re-determined instantaneous failure rate (e.g., col 15, ln 61-67; col 16, ln 16-19).

With respect to **claim 19**, Quist teaches the expected usage parameters are based on an expected amount of power cycles applied to the monitored device (e.g., col 28, ln 36-50).

With respect to **claim 20**, Quist teaches the expected temperature is an expected operating temperature (e.g., col 17, ln 23-35).

With respect to **claim 21**, Quist teaches the expected temperature is an expected ambient temperature (e.g., col 22, ln 40-49).

With respect to **claims 22 and 31-33**, Quist teaches a computer readable medium with instructions embedded therein for causing a processor implement a reliability determination process including (e.g., col 1, ln 4-7):

an initialization module for directing implementation of an initialization process (e.g., col 20, ln 41-45);

determination process (Figure 9-2: 101; col 22, ln 40-41) and a field condition

reliability analysis process for determining one or more operational parameters of a

component (e.g., col 5, ln 33-35; col 19, ln 46-67);

a reliability determination runtime module for interfacing with an operating system

to calculate one or more field-adjusted Mean Time Between Failures (MTBFs) by

adjusting a reference MTBF for the component using the operational parameters and to

calculate one or more cumulative reliability index values based on the field-adjusted

MTBFs (e.g., col 12, ln 40-41; col 21, ln 36-39; col 19, ln 46 – col 20, ln 11); and

an output module for causing the calculated cumulative reliability index values to

be displayed to a user (e.g., col 20, ln 9-11).

With respect to **claim 24**, Quist teaches said background module includes

instructions for implementing reliability associated firmware activities (e.g., col 12, ln 46-

60).

With respect to **claim 25**, Quist teaches said background module divides

background tasks into multiple background threads that operate separately (e.g., col 6,

ln 7-20).

With respect to **claims 11 and 28**, Quist teaches the measured operating

parameters are transferred over a network for remote analysis (e.g., col 5, ln 51-62).

With respect to **claim 34**, Quist teaches monitoring a transistor utilization

percentage (e.g., col 11, ln 3-48).

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Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14.   **Claims 10 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Quist et al. (US Patent 6,199,018) in view of Chess et al. (US Patent 5,802,592)

(hereinafter "Chess"). Quist teaches initializing random access memory (RAM) with

previously stored values (Quist: col 4, ln 56-67; col 16, ln 45-50); defining a reliability

sampling period or interval (Quist: col 24, ln 60-64); and starting background tasks

(Quist: col 4, ln 56-67). Quist does not explicitly teach checking the integrity of a non

volatile memory. Chess teaches verifying the integrity of the contents of ROMs (FLASH

and otherwise) (Chess: col 1, ln 37-39). It would have been obvious to one of ordinary

skill in the art at the time of the invention to modify the teachings of Quist to include

checking the integrity of the non volatile memory as done by Chess because the

verification will ensure that no accidental changes have been made to the contents of

the ROM (Chess: col 1, ln 39-41).

15.   **Claims 6, 8, 9 and 29** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Quist et al. (US Patent 6,199,018) in view of Gammel et al. (US

Patent 5,974,363) (hereinafter "Gammel"). Quist teaches the limitations of parent

claims 1 and 27, but does not teach that the device is a line card. Gammel teaches

testing line cards in a network processing unit (Gammel: col 2, ln 1-29). It would have

been obvious to one of ordinary skill in the art at the time of the invention to modify

Quist to include testing line cards as done by Gammel because testing line cards will

ensure that return loss, noise and distortion parameters are within acceptable limits

(Gammel: col 1, ln 39-41).

16.   **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Quist et

al. (US Patent 6,199,018) in view of Hedlund et al. (US Patent 6,516,282) (hereinafter

"Hedlund"). Quist teaches measuring ambient temperature (Quist: col 22, ln 40-49), but

does not teach measuring operating humidity. Hedlund teaches measuring operating

humidity (Hedlund: col 3, ln 13-24). It would have been obvious to one of ordinary skill

in the art at the time of the invention to modify Quist to include the humidity sensor of

Hedlund because determining the humidity of the system will better determine the

reliability and lifespan of the system (Hedlund: col 3, ln 13-24).

17.   **Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over Quist et

al. (US Patent 6,199,018) in view of LaBerge et al. (US Patent 5,740,380) (hereinafter

"LaBerge"). Quist teaches the limitations of parent claim 27, but does not teach

monitoring bandwidth usage percentage. LaBerge teaches monitoring a bandwidth

usage percentage (LaBerge: col 8, ln 1-5). It would have been obvious to one of

ordinary skill in the art at the time of the invention to modify Quist to include the

bandwidth monitoring of LaBerge because knowing the bandwidths being used will

allow the system to efficiently manage the bandwidths available (LaBerge: col 2, ln 9-

21).

Response to Arguments

18.   Applicant's arguments with respect to claims 1-25 and 27-36 have been

considered but are moot in view of the new ground(s) of rejection.

Applicant argues that the visual indicator in Quist is not a mathematical product

of the reference failure rate; however, Applicant's arguments are not well taken. The

display of Quist is an indication of the failure rate (Quist: col 3, ln 36-47) or likely

machine failure (Quist: col 4, ln 28-30). Quist further outputs information representative

of the operating characteristics (Quist: col 4, ln 31-40). The results of the high level

processing may also be provided to a human user through a computer screen of a

personal computer (Quist: col 5, ln 10-15). Therefore the results of the computations –

the reference failure rate – are displayed to the user.

Applicant argues that Quist does not teach the elements of claim 14; however,

Applicant's arguments are not well taken. As shown above, Quist teaches means for

comparing the expected environmental conditions and the expected usage parameters

to the measured actual temperature and the measured actual electrical stress (e.g., col

6, ln 7-20) and means for determining an instantaneous failure rate by adjusting the

reference failure rate according to the comparison (e.g., col 4, ln 56 – col 5, ln 3).
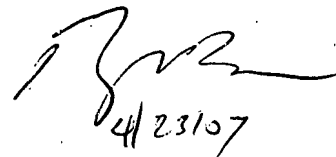
Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Janet Suglo whose telephone number is 571-272-8584.

The examiner can normally be reached on weekdays from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Janet L Suglo
April 20, 2007

BRYAN BUI
PRIMARY EXAMINER